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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Paul W. Dent

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EXAMINER

NGUYEN, TOAN D

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/764,712

Applicant(s)

DENT, PAUL W.

Examiner

Toan D. Nguyen

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20,21,30-32 and 34-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 20,21,30-32,34-37 and 39-42 is/are rejected.
- 7) ☒ Claim(s) 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/18/01.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 21, 36 and 42 are objected to because of the following informalities:

In claim 21 line 1, it is suggested to change "A method" to --- The method ---.

In claim 36 line 4 and line 5, it is suggested to change "using frequencies" to --- using the frequencies ---.

In claim 42 line 1, it is suggested to change "wherein first" to --- wherein the first - --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 32, 34-35 and 39-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Ketseoglou et al. (US 5,732,076).

For claim 32, Ketseoglou et al. disclose coexisting communication systems, comprising:

allocating frequencies (figure 5, references F1, F2 and F3) for use in the plurality of cells (figure 5, reference 103) (col. 8 lines 2-5) such that respective different

frequency allocations (figure 5, references F1, F2 and F3) are provided for respective first and second spreading codes (figure 5, references C1-C7) (col. 8 lines 2-3) used in each of the cells (col. 3 lines 17-22 and col. 8 lines 11-14), wherein the step of allocating frequencies for use in the plurality of cells comprises:

- applying a first frequency reuse pattern for the first spreading code (figure 5, col. 8 lines 2-11); and

- applying a second frequency reuse pattern for the second spreading code (figure 5, col. 8 lines 2-11).

For claim 34, Ketseoglou et al. disclose wherein the step of allocating comprises: adaptively allocating frequencies for use with the first spreading code according to a first adaptive allocation scheme (figure 5, col. 8 lines 2-11); and

- adaptively allocating frequencies for use with the second spreading code according to a second adaptive allocation scheme (figure 5, col. 8 lines 2-11).

For claim 35, Ketseoglou et al. disclose wherein said first and said second spreading codes comprises one of plurality of direct-sequence-modulation codes, a plurality of frequency-hopping codes, and a plurality of combined frequency-hopping/direct-sequence-modulation codes (col. 18 lines 6-7).

For claim 39, Ketseoglou et al. disclose coexisting communication systems, comprising:

- a plurality of cells (figure 5, references 103, col. 7 line 67 to col. 8 line 2).

- a code reuse partitioning circuit operative to allocate frequencies for use in the plurality of cell such that respective different frequency allocations are provided for

respective first and second spreading codes (figure 5, col. 8 lines 2-11) used in each of the cells (col. 3 lines 17-22 and col. 8 lines 2-14).

For claim 40, Ketseoglou et al. disclose wherein the code reuse partitioning circuit is operative to apply a first frequency reuse pattern for a first spreading code and to apply a second frequency reuse pattern for a second spreading code (figure 5, col. 8 lines 2-11).

For claim 41, Ketseoglou et al. disclose wherein the code reuse partitioning circuit is operative to adaptively allocating frequencies for use with the first spreading code according to a first adaptive allocation scheme (figure 5, col. 8 lines 2-11) and to adaptively allocating frequencies for use with the second spreading code according to a second adaptive allocation scheme (figure 5, col. 8 lines 2-11).

For claim 42, Ketseoglou et al. disclose wherein the first spreading code and the second spreading codes comprises one of plurality of direct-sequence-modulation codes, a plurality of frequency-hopping codes, and a plurality of combined frequency-hopping/direct-sequence-modulation codes (col. 18 lines 6-7).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 20-21, 30-31 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (US 6,195,343) in view of Ketseoglou et al. (US 5,732,076).

For claims 20 and 31, Watanabe discloses spectrum spread communication, comprising:

communicating between the plurality of base stations (figure 7, references BS A to BS F) and radiotelephones using a common plurality of spreading codes (col. 6 lines 31-34).

However, Watanabe does not expressly disclose wherein each base station uses the common plurality of spreading codes, and allocating cellular radiotelephone frequencies among said plurality of base stations according to a first frequency allocation system for a first one of said spreading codes and according to a second frequency allocation system different from said first frequency allocation system for a second one of said spreading codes. In an analogous art, Ketseoglou et al. disclose wherein each base station uses the common plurality of spreading codes (col. 3 lines 17-22 and col. 8 lines 2-14), and allocating cellular radiotelephone frequencies (figure 5, references F1, F2 and F3) among said plurality of base stations (figure 5, reference 103) (col. 7 line 66 to col. 8 line 5) according to a first frequency allocation system for a first one of said spreading codes and according to a second frequency allocation system different from said first frequency allocation system for a second one of said spreading codes (col. 8 lines 2-3). Ketseoglou et al. disclose wherein the first frequency allocation system comprise a first frequency reuse pattern, and wherein the second

frequency allocation system comprises a second frequency reuse pattern (col. 8 lines 2-11 as set forth in claim 31).

One skilled in the art would have recognized the wherein each base station uses the common plurality of spreading codes, and allocating cellular radiotelephone frequencies among said plurality of base stations according to a first frequency allocation system for a first one of said spreading codes and according to a second frequency allocation system different from said first frequency allocation system for a second one of said spreading codes, and would have applied Ketseoglou et al.'s cellular environment in which the spread spectrum protocol operates in Watanabe's spectrum spread communication system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Ketseoglou et al.'s coexisting communication systems in Watanabe's spectrum spread communication system with the motivation being minimized interference between adjacent cells (col. 8 line 7).

For claim 21, Watanabe discloses wherein said step of allocating is preceded by a step of synchronizing said plurality of spreading codes among said plurality of base stations so that said periods of said plurality of spreading codes are concurrent, to produce synchronized spreading codes among said plurality of base stations (col. 6 lines 31-34).

For claim 30, Watanabe discloses the step of synchronizing said common plurality of spreading codes (col. 6 lines 31-34 and col. 6 lines 45-49).

For claims 36-37, Watanabe discloses spectrum spread communication, comprising:

a plurality of code division multiple access (CDMA) cellular radiotelephone base stations (figure 7, references BS A to BS F) that communicate with radiotelephones on a plurality of frequencies using a common plurality of spreading codes (col. 6 lines 31-34).

However, Watanabe does not expressly disclose the base stations each using a common plurality of spreading codes and using frequencies that are allocated among said plurality of base stations such that frequencies are allocated for a first one of said spreading codes according to a first frequency allocation system and are allocated for a second one of said spreading codes according to a second frequency allocation system different from said first frequency allocation system. In an analogous art, Ketseoglou et al. disclose the base stations each using a common plurality of spreading codes (col. 3 lines 17-22 and col. 8 lines 2-14) and using frequencies (figure 5, references F1, F2 and F3) that are allocated among said plurality of base stations (figure 5, reference 103) such that frequencies are allocated for a first one of said spreading codes according to a first frequency allocation system and are allocated for a second one of said spreading codes according to a second frequency allocation system different from said first frequency allocation system (col. 8 lines 2-3). Ketseoglou et al. disclose wherein said common plurality of spreading codes is one of a plurality of direct-sequence-modulation codes, a plurality of frequency-hopping codes, and a plurality of combined frequency-hopping/direct-sequence-modulation codes (col. 18 lines 6-7 as set forth in claim 37).

One skilled in the art would have recognized the base stations each using a common plurality of spreading codes and using frequencies that are allocated among

said plurality of base stations such that frequencies are allocated for a first one of said spreading codes according to a first frequency allocation system and are allocated for a second one of said spreading codes according to a second frequency allocation system different from said first frequency allocation system, and would have applied Ketseoglou et al.'s cellular environment in which the spread spectrum protocol operates in Watanabe's spectrum spread communication system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Ketseoglou et al.'s coexisting communication systems in Watanabe's spectrum spread communication system with the motivation being minimized interference between adjacent cells (col. 8 line 7).

Allowable Subject Matter

6. Claim 38 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed 03/16/06 have been fully considered but they are not persuasive.

The applicant argues with respect to claims 20, 32, 36 and 39 that the cited combination of Ketseoglou and Watanabe does not disclose or suggest all of the recitations of amended independent claims 20, 32, 36 and 39. The examiner disagrees. Applicant's attention is directed to Ketseoglou patent at col. 3 lines 17-22 where Ketseoglou clearly teaches "The system may comprise a number of "stacked" base

stations in a single cell, each operating over a different frequency or using different spreading codes. The ultimate potential user capacity is therefore a function of the number of available frequencies, time slots, and codes for a given cell.” Ketseoglou teaches further at col. 8 lines 11-14, “Although seven spread spectrum codes C1 through C7 are shown in FIG. 5, a pattern involving other numbers of spread spectrum codes may be suitable depending upon the particular application.”

The applicant argues with respect to dependent claim 34 that Ketseoglou teaches that frequencies are assigned among cell 103, but does not indicate that frequency allocation shown is adaptive. Applicant’s attention is directed to Ketseoglou patent at col. 8 lines 3-5, “Preferable, three different frequencies (frequency groups (F1, F2 and F3 are assigned in such a manner that no two adjacent cells have the same assigned frequency (or frequency group)” (frequency allocation adaptive means).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D. Nguyen whose telephone number is 571-272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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